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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,861	12/28/2000	Brad A. Davis	BEA9-2000-0015-US1	1468

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LIEBERMAN & BRANDSDORFER, LLC
802 STILL CREEK LANE
GAITHERSBURG, MD 20878

EXAMINER	
PORTKA, GARY J	
ART UNIT	**PAPER NUMBER**
2188	

MAIL DATE	DELIVERY MODE
08/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/752,861	DAVIS ET AL.	
	Examiner	Art Unit	
	Gary J. Portka	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 16-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 16-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *herewith* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 28, 2007 has been entered.

Response to Arguments

2. Applicant's arguments filed May 28, 2007 have been fully considered but they are largely moot in view of the new grounds of rejection, and otherwise not persuasive.

Applicants have argued that the claims limit the firmware to a single computer system to produce the first and second descriptors. It is noted that this does not change the claimed meaning since all claimed elements were previously considered to be of a single system, for example, the "system" of claim 1 line 1.

3. Claims 1, 13, 19, and 22 have been amended by Applicant. Claims 1-13 and 16-28 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-3, 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Claim 2 recites "said descriptor" which lacks proper antecedent basis. Claim 19 recites the limitation "said a shared cache descriptor" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 3 depends on 2, and claim 20 depends on claim 19.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krithivas et al., US 6,816,963 B1, in view of Sayles, US 6,549,963 B1.

8. As to claims 1, 13, 16, and 22, Krithivas discloses *a computer system, article, and method with multiple processors and plurality of resources assigned to node groups* (see Abstract, Figs. 1 and 2), *wherein a first descriptor of respective topological levels of at least one resource is produced by firmware* (BIOS). See Abstract, col. 1 lines 49-52, col. 2 lines 39-59 (where a PMA builds a FDM that describes platform attributes, including SCSI and IDE), col. 4 lines 40-54, and col. 4 line 64 to col. 5 line 4. These descriptors are of "respective topological levels" because they describe the component and platform levels, and of various platforms of clients connected to the server's network. The descriptors of Krithivas describe "attributes", but do not necessarily teach *a second descriptor of the respective performance of the resources*. However, Sayles teaches the use of firmware to initialize configuration settings that control performance

as well as other characteristics of multiple devices attached to a network, the data of the configuration settings thus reading on the second descriptor (see Sayles col. 1 lines 51-56, col. 2 lines 26-33 ("During system initialization, the system may adjust settings in devices coupled to a bus to indicate communications characteristics that are supported by the devices."), col. 2 line 55 to col. 3 line 26 ("... communications characteristics ... may include ... the address space accessible by the devices ... whether special high-rate read or write transfers are supported ..."), and col. 5 lines 13-22 and 35-42). The BIOS in Sayles loads not only configuration information that identifies performance of devices, but also the address space accessible by them (in addition to other characteristics), and thus Sayles also teaches what may be interpreted as multiple descriptors generated or produced by firmware. An artisan would have been motivated to add a second descriptor of performance of resources to the system of Krithivas because as taught by Sayles it would have provided the advantages of control over multi-device networks to maintain signal integrity, compensation for different types of power supplies for the devices, and also the ability to change characteristics for testing purposes (see Sayles col. 1 lines 38-42, and col. 5 line 65 to col. 6 line 24). It is apparent from col. 2 lines 21-25, and from the claims of Sayles (which neglect to recite AGP) that the teachings therein are not solely to AGP devices but rather to any system having communication channels with multiple devices. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to add the second descriptor produced by firmware, because it was a known method to control signal

integrity, compensate for power supplies, and allow testing under changing characteristics.

9. Alternatively, since the language of the claims does not require that the first and second descriptors be produced by the same firmware, the combination of the references cited above may be motivated simply by incorporating their separate teachings into separate computers that are attached to a common network for the purpose of communicating. That is, each reference teaches why its own descriptor should be used in a computer. It would have been obvious to connect these computers in a network, and thus in a single computer system, for the well known purpose of providing communication between those computers.

10. As to claim 2, the descriptors taught by the combination of references as described above may be considered first level and primary data structures to the extent recited.

11. As to claim 3, the descriptor manifest in Krithivas maps addresses because it describes the system, initializes, and loads the programs necessary, and thus it contains a pointer to a secondary data structure.

12. As to claims 4 and 17, each node has an identifier in Krithivas.

13. As to claim 5, the identifiers represent multiple interconnect levels as recited since a node may have multiple levels (for example, processor and memory).

14. As to claims 6-7, Krithivas dynamically updates the descriptor as recited (col. 4 line 64 to col. 5 line 4).

15. As to claim 8, Sayles dynamically updates the other descriptor as recited (see col. 5 lines 65-66).

16. As to claims 9, 18, and 25, the descriptor of the prior art combination is selected from a group that includes descriptors of the recited elements.

17. As to claims 10 and 19, since the descriptors of Krithivas describe the hardware at each node, the interconnects are reflected as recited.

18. As to claims 11, 20, and 26, the descriptor of Sayles may be considered part of the recited elements of the other descriptor in the combination, that of Sayles incorporating the latency as recited.

19. As to claims 12, 21, and 27, since transfer rates are given by Sayles, the average latency which is directly calculable from this is reflected or maintained as recited.

20. As to claims 14 and 15, the medium consists of both recordable storage and modulated carrier.

21. As to claim 23, traversing the data structure must be done in Krithivas to use the descriptor manifest to identify nodes and hardware therein.

22. As to claim 24, accessing a second data structure is disclosed in Krithivas since the descriptor manifest maps addresses.

23. As to claim 28, recursively accessing additional data structure levels is inherent to the extent recited since data is accessed at processor and memory levels.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gary J Portka
Primary Examiner
Art Unit 2188

GARY PORTKA
PRIMARY EXAMINER

August 6, 2007